

WHAT IS CLAIMED IS:

1. A plug assembly at an interface between a first component and a second component, said plug assembly comprising:

a plug element comprising a plug body having a proximal end and a distal end, said plug element further comprising a generally radially extending flange at the proximal end of the plug body, the plug body defining an axial channel formed therethrough; and

a seal joined to the plug element flange, the seal extending at least axially inward toward the distal end of the plug body and axially outward away from the distal end of the plug body.

2. The plug assembly as recited in Claim 1, wherein the seal being configured to extend annularly about a radially outermost surface of the plug element flange.

3. The plug assembly as recited in Claim 1, further includes:

an annular seal disposed within the axial channel of the plug element.

4. The plug assembly as recited in Claim 3, wherein the annular seal further includes:

an O-ring seal.

5. The plug assembly as recited in Claim 3, further includes:

a membrane element joined to the plug element at the distal end thereof, the membrane element extending over an axial orifice of the plug element.

6. The plug assembly as recited in Claim 1, further includes:

an inner annular seal disposed within the axial channel of the plug body;

a membrane element joined to the plug element at the distal end thereof, the membrane element extending over an axial orifice of the plug element; and

5 a seal member joined to the inner annular seal and the membrane element.

7. The plug assembly as recited in Claim 1, wherein the seal being mechanically bonded to the plug element flange.

8. The plug assembly as recited in Claim 7, further includes:  
an inner annular seal disposed within the axial channel of the plug body; and  
a membrane element joined to the plug element at the distal end thereof, the membrane element extending over an axial orifice of the plug element.

9. The plug assembly as recited in Claim 7, wherein the seal being disposed at a radially intermediate point of the plug element flange.

10. The plug assembly as recited in Claim 1, wherein the plug element and the seal being formed as a single-piece uni-body construction.

11. The plug assembly as recited in Claim 10, wherein the single-piece uni-body construction being formed of an elastomeric material.

12. The plug assembly as recited in Claim 1, wherein the first component and the second component constituting automatic transmission structures.

13. A plug assembly at an interface between a first component and a second component, said plug assembly comprising:

a plug element having a proximal end and a distal end and an axial channel defined therebetween, said plug element comprising a radially extending flange at the

5 proximal end thereof; and

an outer seal annularly disposed about the plug element, the outer seal being joined to the plug element flange, the outer seal at least extending in axially opposite directions relative to the plug element flange.

14. The plug assembly as recited in Claim 13, further includes:

an annular inner seal disposed within the axial channel of the plug element.

15. The plug assembly as recited in Claim 14, further includes:

a membrane element joined to the plug element at the distal end thereof, the membrane element extending over an axial orifice of the plug element.

16. The plug assembly as recited in Claim 15, further includes:

a means to connect the inner seal and the membrane element.

17. The plug assembly as recited in Claim 16, wherein the inner seal, the membrane element, and the connection means constituting an integral uni-body construction.

18. The plug assembly as recited in Claim 13, further includes:

a means to mechanically bond the outer seal to the plug element flange.

19. The plug assembly as recited in Claim 18, further includes:

an inner annular seal disposed within the axial channel of the plug element; and

a membrane element joined to the plug element at the distal end thereof, the membrane element spanning an axial orifice of the plug element.

20. A plug assembly at an interface between a first component and a second component, said plug assembly comprising:

a plug element having a proximal end and a distal end and an axial channel defined therebetween, the plug element having a terminal axial edge at the proximal

5 end thereof; and

a seal joined to the plug element at the terminal axial edge thereof, the seal at least extending radially inward and radially outward relative to the terminal axial edge.

21. The plug assembly as recited in Claim 20, further includes:

a membrane element joined to the plug element at the distal end thereof, the membrane element spanning an axial orifice of the plug element.

22. The plug assembly as recited in Claim 21, further includes:

a means to connect the seal and the membrane element, the connection means being annularly disposed about the plug element.

23. The plug assembly as recited in Claim 22, wherein the seal, the membrane element, and the connection means constituting a single-piece uni-body construction.

24. The plug assembly as recited in Claim 22, wherein the plug element, the seal, the membrane element, and the connection means constituting a single-piece uni-body construction.

25. The plug assembly as recited in Claim 24, wherein the single-piece uni-body construction being formed of an elastomeric material.

26. An apparatus, comprising:

a plug element having a proximal end and a distal end, the plug element further having an inner annular surface defining an axial channel extending between the proximal end and the distal end of the plug element, said plug element comprising a  
5 radially extending flange at the proximal end thereof;

a first seal annularly disposed about the plug element, the seal being joined to the plug element flange, the seal at least extending in axially opposite directions relative to the plug element flange;

a tube received by the plug element through the axial channel thereof; and

10 a second seal annularly disposed about the tube, the second seal in press fit engagement with the plug element at the inner annular surface thereof.